

REMARKS

Claims 1, 3-15, 17-31, and 33-53 are pending.

As a preliminary matter, the present Office Action includes an initialed copy of a 1449 from an IDS submitted February 8, 1999, but does not include the 1449 from a separate IDS filed October 27, 1997. It is respectfully requested that the next Official Action include an initialed copy of the 1449 from the October 27, 1997 IDS, if possible.

The pending claims have been rejected under 35 U.S.C. §103(a) as being obvious in view of Fukushima, Japanese Publication 08-55133, a translation of which was provided in the Office Action. This rejection is respectfully traversed.

Claim 1 recites a method of generating a mosaic image with an appearance that approximates a target image. The method includes dividing the target image into a plurality of tile regions, each representing a distinct locus of the target image. For each tile region, several steps are carried out as follows: (1) the tile region is divided into distinct sub-regions; (2) source images are compared to the tile region by comparing the sub-regions of the tile region with corresponding portions of the source images to produce a measurement of visual similarity; (3) the source image having the highest measurement of visual similarity to the tile region is selected; and (4) the selected source image is positioned in the mosaic image at a locus corresponding to the locus of the tile region.

Fukushima shows a device in which personal data for individuals are stored along with corresponding mosaic portrait files containing mosaic portrait images of the individuals. The device operates to identify individuals and to retrieve the stored personal data of identified individuals. The identification

process includes the following steps: inputting a picture image of an individual; aligning the picture image and extracting a facial portion thereof; forming a so-called "mosaic" of the extracted image; comparing the mosaic of the input image to the stored mosaic portraits to determine how closely each mosaic portrait matches the input image; retrieving personal data associated with one or more closely matching mosaic portraits; and displaying the retrieved personal data on a display. Each "mosaic" image in Fukushima is an array of blocks that are each shaded or colored with the average shading or coloring of a corresponding region of the input image or a stored image. In an exemplary mosaic image shown in Figure 4, the blocks are small square regions, each of which is uniformly shaded with a grayscale value.

The Office Action mis-characterizes Fukushima in several respects. It is correct, as stated in the Office Action, that Fukushima does not show sub-dividing the blocks into sub-regions. However, it is not correct to say that Fukushima teaches comparing source images to a tile region of a target image. Fukushima compares stored mosaic portrait images to an entire input mosaic image. Although this comparison is done on a block-by-block basis, this operation is not the same as comparing an entire image to an individual block, as apparently alleged in the Office Action. It is also incorrect to say that Fukushima generates a mosaic image by positioning each selected image in the mosaic image at a locus corresponding to the locus of a tile region of the target image. Fukushima is not seen to position a selected image into any other image at all, and certainly not to generate a mosaic image. Fukushima merely generates an array of blocks, each being shaded a uniform grayscale or color value representing the average shading or color of a corresponding region of the original image. Fukushima does not generate a mosaic image including a

plurality of images occupying positions based on their respective similarities to tile regions of a target image.

Fukushima cannot render the invention of claim 1 obvious. Nowhere is Fukushima seen to teach or suggest several steps of claim one described above, including dividing each tile region into distinct sub-regions; comparing source images to each tile region by comparing the sub-regions of the tile region with corresponding portions of the source images to produce a measurement of visual similarity, and positioning the source image having the highest measurement of visual similarity to the tile region in the mosaic image at a locus corresponding to the locus of the tile region. Because these features of claim 1 are entirely absent from Fukushima, claim 1 cannot be obvious in view of Fukushima under 35 U.S.C. §103(a).

The features of claim 1 discussed above are included either directly or indirectly in all of the claims of this application, and therefore the above arguments apply to the patentability of the other claims of this application as well. Moreover, several of the other claims recite additional features not shown or suggested by Fukushima, and therefore are patentable for additional, independent reasons. For example, Fukushima does not each or suggest a one-pixel sub region as recited in claims 3, 17 and 33; nor preventing a source image from being re-used as recited in claims 5, 19 and 35; nor cropping landscape and portrait format images differently as recited in claims 9-10, 22-23 and 38-39; nor deselecting an image if it better matches a different tile region as recited in claims 12, 28 and 42; nor assuring the inclusion of an image as recited in claims 13, 29 and 43; nor specifying a sub-category of images for exclusive matching as recited in claims 14, 30 and 44. Because these features are

entirely absent from Fukushima, these claims cannot be obvious in view of Fukushima under 35 U.S.C. §103(a).

For the foregoing reasons, the claims of this application are allowable in view of Fukushima and the other art of record. Favorable action is respectfully requested. The Examiner is encouraged to telephone the undersigned attorney to discuss any matter that would expedite allowance of the present application.

Respectfully submitted,

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